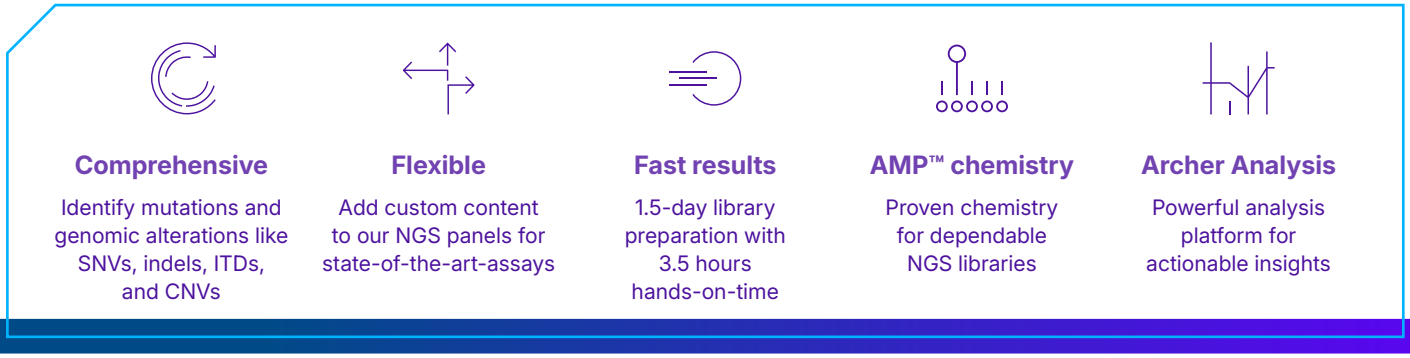
# Archer™ VARIANT*Plex*™ Myeloid v2 Panel Assay Solutions

## Same chemistry, same workflow—expanded targets.

The molecular landscape of myeloid malignancies is rapidly evolving. An ideal research assay solution should be versatile and flexible to allow for easy scalability while empowering confidence in results.

The VARIANT*Plex* Myeloid v2 Panel is designed to meet these needs with expanded gene content, improved coverage, and flexible customization options in response to recent discoveries, heightened demand for biomarker detection, and updated guidelines (WHO, NCCN, ESMO). As always, our assays are bundled with our Archer Analysis secondary analytics platform and enabled on the Molecular Health tertiary analytics offering.

## Archer VARIANT*Plex* Myeloid v2 panel offers comprehensive solutions for the characterization of SNVs, Indels, ITDs, structural variants, and CNVs from whole blood, PBMC, and bone marrow research samples.



**Comprehensive**
Identify mutations and genomic alterations like SNVs, indels, ITDs, and CNVs

**Flexible**
Add custom content to our NGS panels for state-of-the-art-assays

**Fast results**
1.5-day library preparation with 3.5 hours hands-on-time

**AMP™ chemistry**
Proven chemistry for dependable NGS libraries

**Archer Analysis**
Powerful analysis platform for actionable insights

## Detect mutations in myeloid relevant targets

The VARIANT*Plex* Myeloid v2 panel detects SNVs, indels ITDs, and CNVs in 92 genes relevant for acute myeloid leukemia (AML), myeloproliferative neoplasms (MPN), myelodysplastic syndromes (MDS), Chronic Myeloid Leukemia (CML), Myeloid Sarcomas (MS), and select few lymphoid malignancies research (**Table 1**).

**Table 1. Genes targeted by the VARIANT*Plex* Myeloid v2 panel.** New genes and updated genes shown in table.

| Gene Targets - VARIANT*Plex*™ Myeloid v2 panel | | | | |
|---|---|---|---|---|
| ABL1 | CUX1 | IL7R | PDGFRA | STAT3 |
| ANKRD26 | CXCR4 | JAK1 | PHF6 | STAT5B |
| ASXL1 | DCK | JAK2 | PPM1D | TET2 |
| ATRX | DDX41 | JAK3 | PRPF8 | TP53 |
| BCOR | DHX15 | KDM6A | PTEN | TPMT |
| BCORL1 | DNMT3A | KIT | PTPN11 | U2AF1 |
| BRAF | EED | KMT2A | RAD21 | U2AF2 |
| BRCC3 | ETNK1 | KMT2D | RBBP6 | UBA1 |
| BTK | ETV6 | KRAS | RPS14 | UBTF |
| CALR | EZH2 | LUC7L2 | RUNX1 | WT1 |
| CBL | FBXW7 | MAP2K1 | SAMD9 | XPO1 |
| CBLB | FLT3 | MPL | SAMD9L | ZRSR2 |
| CBLC | GATA1 | MYC | SETBP1 | |
| CCND2 | GATA2 | MYD88 | SF3B1 | |
| CDC25C | GNAS | NF1 | SH2B3 | |
| CDKN2A | GNB1 | NOTCH1 | SLC29A1 | |
| CEBPA | HRAS | NPM1 | SMC1A | |
| CREBBP | IDH1 | NRAS | SMC3 | |
| CSF3R | IDH2 | NUDT15 | SRSF2 | |
| CTCF | IKZF1 | PAX5 | STAG2 | |

New genes
Updated

**Table 2. Updated reads and genes from VARIANT*Plex* Myeloid to VARIANT*Plex* Myeloid v2 panel.**

| | Reads | Genes | %VAF |
|---|---|---|---|
| VARIANT*Plex* Myeloid v2 panel | 1.5-10 M | 92 | 1%-5% |

## Variant-positive data: Enhanced coverage with exceptional performance

VARIANT*Plex* Myeloid v2 panel delivers high-confidence variant calls even at low DNA input amounts. The updated panel maintains high-confidence detection even for complex genomic variants like internal tandem duplications (i.e. FLT3-ITD), partial tandem duplications (i.e. KMT2A PTD), and difficult to cover high-GC genes (i.e. CEBPA). It now includes 92 genes as compared to 75 genes in the previous versions (**Table 1**), and reliably detects all expected variants, including complex mutations such as FLT3-ITDs across all lengths 3-300+ bp, through a wide input range (10–200 ng).

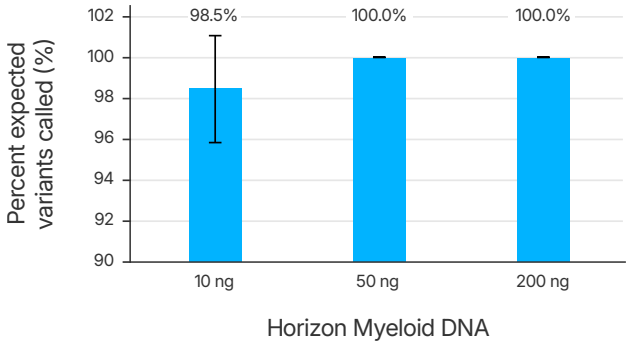



**Figure 1. Variant*Plex* Myeloid v2 panel calls all expected variants in the Horizon Myeloid DNA input.**

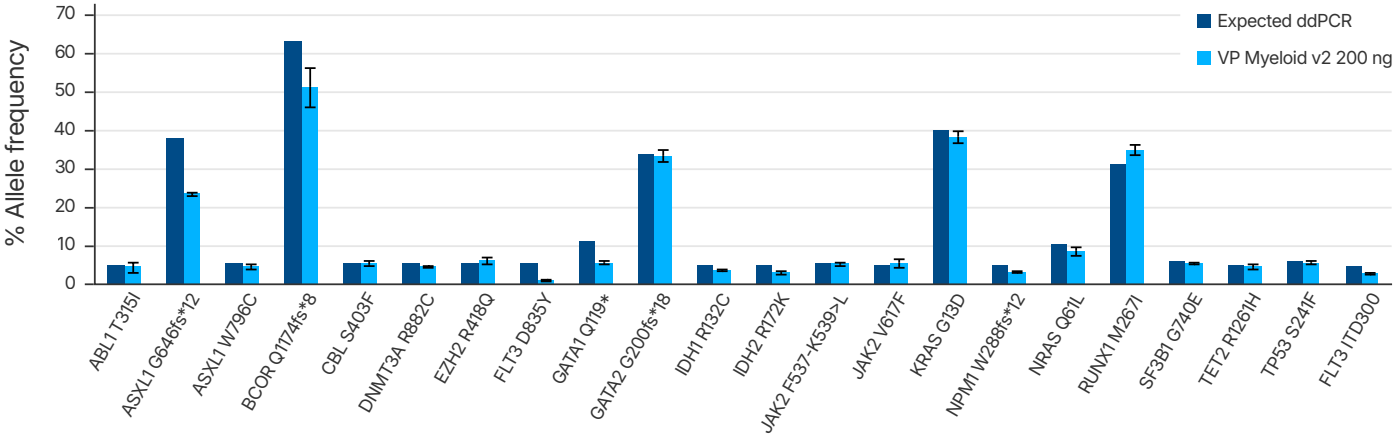



**Figure 2. All variants, including a 300bp FLT3-ITD are called as expected using the VP Myeloid v2 Panel.** Input: Myeloid DNA Reference Standard (HD829), 10 ng, 50 ng, 200 ng, n = 3 per input mass.

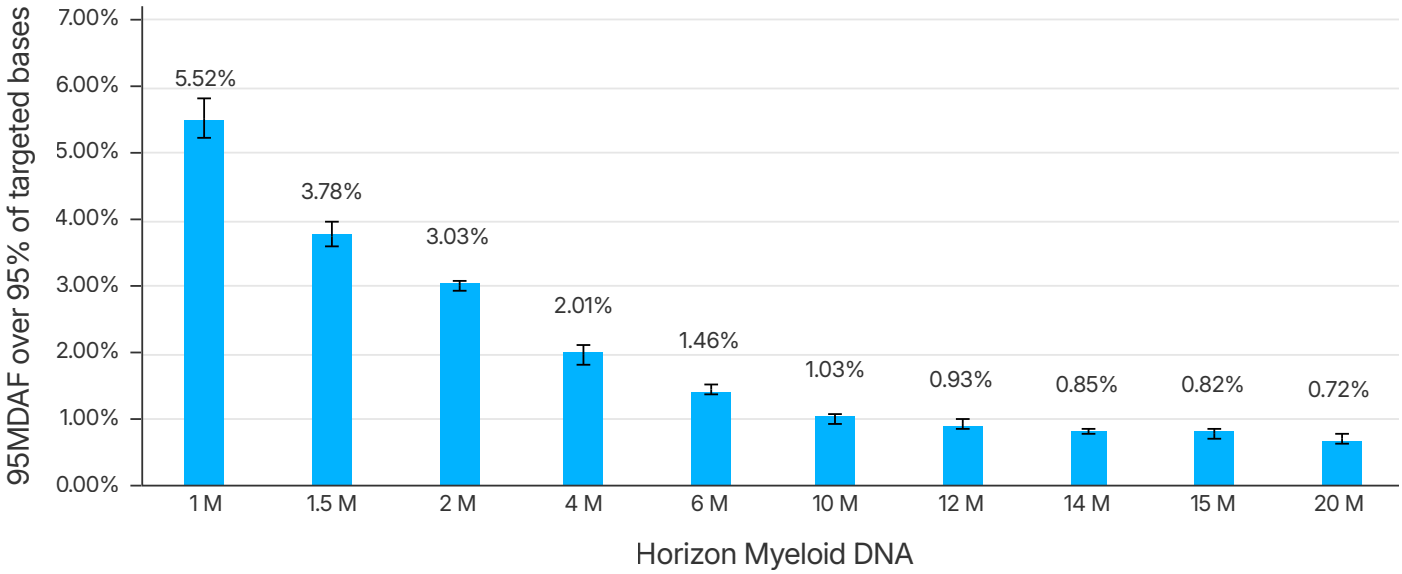



**Figure 3. Percentage of expected variants called across increasing library read depths (1M–20M) using 200 ng of HzMyeloidDNA input.** Input: Myeloid DNA Reference Standard (HD829), 200 ng, n = 3 per input mass

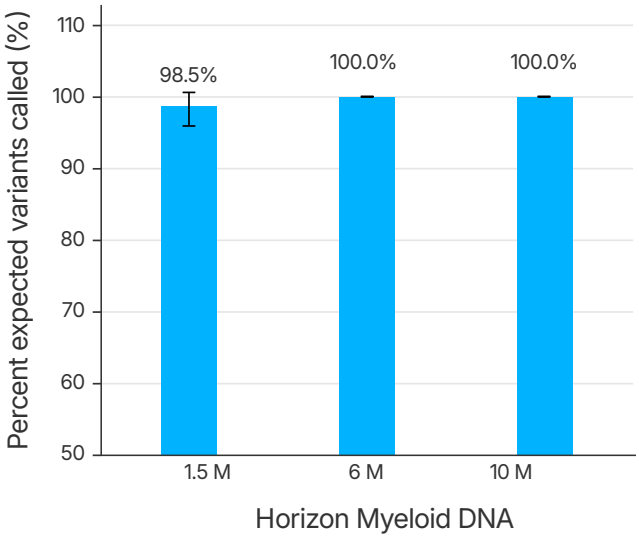



**Figure 4. Comparison of percent expected variants called to library read depth.** Input: Myeloid DNA Reference Standard (HD829), 200 ng, n = 3 per input mass

Sequencing to a depth of 10 million reads enables confident detection of variants at a 1% allele frequency, with 100% of expected variants successfully called. For targets at a 5% allele frequency, sequencing to approximately 1.5 million reads achieves 98.6% of expected variant calls, offering to meet the unique needs of each lab when ultra-low frequency detection is not required (**Figure 3 and 4**).

## Comprehensive solutions with customization

The VARIANT*Plex* Myeloid v2 panel can be used as-is, paired with other Archer research panels, or customized to fit your unique research needs. Combine the VARIANT*Plex* Myeloid v2 panel with the FUSION*Plex* Pan-Heme Panel or with the IMMUNO*Verse* BCR Panel for a comprehensive myeloid research solution.

| Product | Genes or target regions | Recommended reads | Product number* |
|---|---|---|---|
| VARIANT*Plex* Myeloid v2 Panel | 92 | 1.5–10 M | 10028437 |
| VARIANT*Plex* Myeloid v2 panel and FUSION*Plex* Pan-HemePanel | 291 | 6–14.5 M | 10028437 & AB0017 |
| VARIANT*Plex* Comprehensive Tissue and Blood Panel | 460 | 61 M | AB0200 |
| IMMUNO*Verse* BCR Panel | BCR heavy (IGH) and light (kappa/lambda) chains | 250 K to 10 M | DB0221 |

* Product numbers listed are for lyophilized panels.

Don’t see your desired targets? Work with our expert designers on the ideal panel without compromising on performance. Get started at **idtdna.com/AssayMarketplace**.

For more information, visit **idtdna.com**